

# **MSFD Programme of Measures for Marine Protection in the German Parts of the North Sea and the Baltic Sea**

Report pursuant to Article 45h(1) of the Federal  
Water Act

## **Attachment 2**

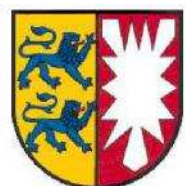
Background Document on Socioeconomics

BLANO cross-cutting Working Group on Socio-  
economics

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## Abbreviations

<b>BLANO</b>	Federal Government/ Federal States Committee on the North Sea and Baltic Sea
<b>BLMP</b>	Federal Government/ Federal States Marine Environment Monitoring Programme for the North Sea and Baltic Sea
<b>CBA</b>	Cost-benefit analysis
<b>CEA</b>	Cost-effectiveness analysis
<b>GES</b>	Good environmental status
<b>KORA</b>	Federal Government/ Federal States Marine Protection Coordination Board
<b>RIA</b>	Regulatory impact assessment
<b>GGO</b>	Joint Rules of Procedure of the Federal Ministries
<b>MSFD</b>	Marine Strategy Framework Directive
<b>SEA</b>	Strategic environmental assessment
<b>WFD</b>	Water Framework Directive

## 1 Introduction

Article 13(3) second subparagraph of the Marine Strategy Framework Directive (MSFD)<sup>1</sup> stipulates that Member States shall ensure that measures are cost-effective and technically feasible. Prior to the introduction of any new measure, Member States shall carry out impact assessments, including cost-benefit analyses. These requirements are transposed into German law by Article 45h(2) of the Federal Water Act (Wasserhaushaltsgesetz, WHG).<sup>2</sup>

This document provides information on the process for implementing these economic requirements of the MSFD with regard to cost-effectiveness analyses, impact assessment and cost-benefit analyses for measures in Germany. To meet the requirements, a standardised socioeconomic assessment scheme was developed which aims at covering the requirements for all measures in as uniform a procedure as possible was developed.

The following describes the principles and conditions for the development and the application of the scheme. The structure of the MSFD implementation process, with the participating institutions, and the measures selection process, provide the framework for the measures socio-economic assessment scheme.

In Germany, a number of institutions are involved in identifying and selecting measures, and they have to decide on a range of very different measures. The measures and their associated effects and costs have not yet been fully elaborated at first, making it particularly difficult to carry out a measure-specific and accurate socioeconomic assessment of them. To address this challenge, a multi-step procedure was adopted which distinguishes between a preliminary estimate of the socioeconomic consequences of a proposed measure and the

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<sup>1</sup> Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive

<sup>2</sup> Federal Water Act of 31 July 2009 (Federal Gazette I p. 2585), last amended by Article 2 of the Act of 15 November 2014 (Federal Gazette I, p. 1724).

final socioeconomic assessment of the measure once it is sufficiently specific for implementation.

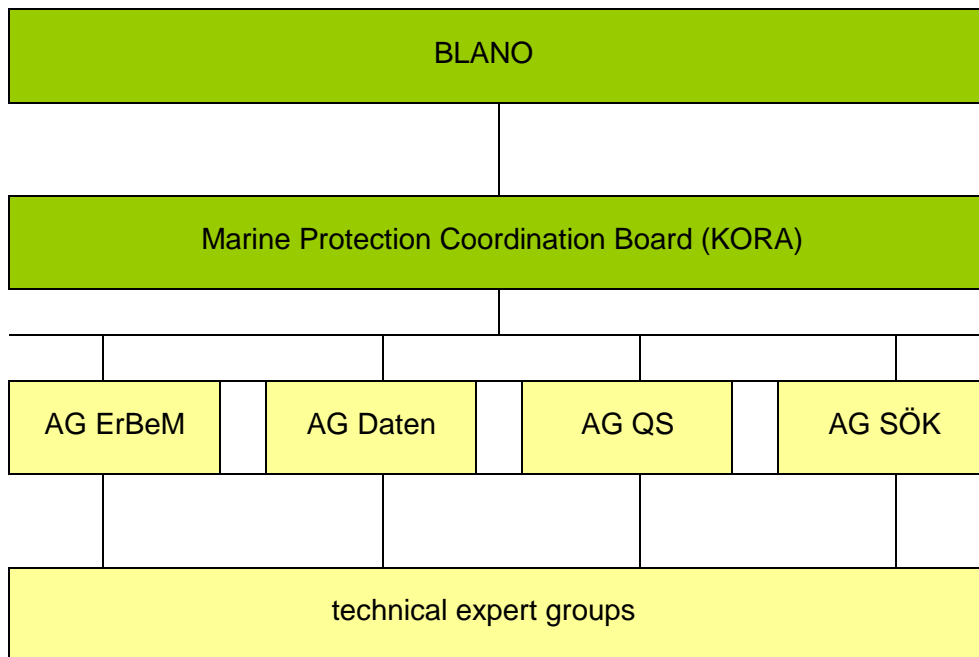
The scheme was developed in parallel to the measures selection process and will be applied as soon as the measures have been operationalised to the extent necessary to allow providing the data needed for the socioeconomic assessment.

## **2 Implementation of the MSFD in Germany: structures, processes and participating institutions**

The Federal Government of Germany and the federal states Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony and Schleswig-Holstein agreed to implement jointly the MSFD for the entire German parts of the North Sea and Baltic Sea. To this end, the former Federal Government/ Federal States Working Group on the Marine Environment Monitoring Programme for the North Sea and Baltic Sea (BLMP) was converted into a new Federal Government/ Federal States Committee on the North Sea and Baltic Sea (BLANO), to act as the national body for coordinating this task. The Federation is represented in BLANO by the ministries responsible for environment, transport (including shipping) and agriculture (including fisheries), while the federal states concerned are represented by their ministries responsible for environment.

To implement its decisions, BLANO set up the Marine Protection Coordination Board (KORA), which performs management tasks between BLANO meetings. BLANO and Kora decisions are taken unanimously. Kora is supported in its work by cross-cutting working groups (Arbeitsgruppe, short: AG in German) - *AG ErBeM* (monitoring, assessment and measures), *AG Daten* (data), *AG SozÖk* (socioeconomics) and *AG QS* (quality assurance). The work of *AG ErBeM* is further supported by 12 technical expert groups.

Kora commissioned an ad hoc drafting group to develop draft programmes of measures for the North Sea and Baltic Sea, drawing on the necessary expertise from both within and outside the BLANO structures.



*Organisational chart of the main structures of BLANO*

### **3 Identification and selection process for measures**

Initial drafts for the programme of measures were developed by the drafting group. The group is comprised of representatives of the Federal Government and the federal states bordering sea basins at ministerial level who also have the task of coordinating the contributions of the various BLANO bodies and specialist authorities, including other ministries. The drafting group met three times up to August 2014 (August 2013, January 2014, May 2014) to discuss conceptual, procedural and methodological aspects of developing the programme of measures, and also organised and participated in two comprehensive national workshops on identifying measures (November 2013, January 2014). The proposals for measures have been further developed by coordination meetings of the Federal Government and the federal states in July, September, October 2014 and January 2015, as well as by BLANO in November 2014.

The initial assessment pursuant to Article 45c of the German Federal Water Act (WHG)<sup>3</sup> in 2012 describes the status of the marine waters, together with the main pressures and their impacts on the state of marine ecosystems. In 2012, BLANO used the information from the initial assessment to establish the operational environmental targets needed to achieve good environmental status of marine waters in accordance with WHG Article 45e.

The programme of measures for the North Sea and Baltic Sea is drawn up on the basis of the operational environmental targets, also taking into consideration existing or planned measures under provisions of other water and nature conservation legislation, including regional marine conventions, and their contribution to target achievement.

Additional measures, going beyond existing or planned measures, must be identified and selected for the programme of measures which are needed for ensuring, with a view to the environmental targets, that pressures on the marine environment arising from human activities are kept within levels compatible with achieving or maintaining good environmental status, and for protecting and preserving the marine environment, preventing its deterioration or, where practicable, restoring marine ecosystems.

The two workshops organised by the drafting group in November 2013 and January 2014, in which there was broad participation from relevant authorities and ministries, collected proposals for measures suited to achieving the environmental targets. In March 2014, these proposals formed the groundwork for the Federal Government and the federal states to set priorities in the technical tasks for developing measures, using a number of criteria, including the following:

- Feasibility of the measure in terms of technical, temporal legal, political and financial aspects
- Efficiency/degree of effectiveness in achieving the environmental target

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<sup>3</sup> Federal Water Act of 31 July 2009 (Federal Gazette I, p. 2585), last amended by Article 2 of the Act of 15 November 2014 (Federal Gazette I, p. 1724).

- Representativeness of the measure with regards to the operational targets, a balanced approach to addressing main polluters and the effect types (source, pathways etc.).

The proposals for measures have been under development since March 2014 in an ongoing technical and political discussion process in the BLANO technical expert groups (e.g. on eutrophication, hazardous substances, neobiota, litter and noise; some of these groups met three times up to January 2015 and also developed the measures further through written communications), in meetings of experts organised by the drafting group (e.g. on biodiversity conservation and efficient use of resources in May 2014, on proposals for agricultural measures in June 2014) and in the monthly meetings of the specialist authorities represented in BLANO. Throughout the entire period, the work was supported by written consultations on developing and agreeing measure proposals.

The programme of measures to be drawn up by end of 2015 contains proposals on the programmatic level, i.e. at a low level of specification. The measures will be specified in detail and localised by the end of 2016 (Article 13(10) MSFD), enabling the measures to be implemented.

The development of measures takes into account the above criteria, alternative measures and/or alternative specification options of the proposed measures, as well as additional requirements for the MSFD measures and aspects pursuant to WHG Article 45h, which are collected in fact sheets where they are substantiated with supplementary data and quantifications such as:

- Expert/scientific justification of the need
- Expert/scientific estimate of the measure's contribution to target achievement (effectiveness of the measure)
- Costs of implementation
- Identification of implementing and funding bodies
- Financing options
- Impacts of the measure on water bodies of other countries
- Instruments for implementation



- Expert contribution to SEA (assessment of the impacts on the assets protected under the German Act on the Assessment of Environmental Impacts – UVPG), alternative assessment)
- Cost-effectiveness analysis
- Impact assessment, including cost-benefit considerations.

The purpose of the fact sheets is to document the results of the review and procedural steps towards establishing the measures. The fact sheets are a tool for developing measures and a basis for the consultation process between authorities; they also serve national documentation, including for the purpose of the written public consultation stipulated under WHG Article 45i and the surveillance of the implementation and the steering of measures by authorities; they also facilitate electronic reporting to the EU pursuant to MSFD Article 13(9).

In June 2014, fact sheets had been compiled for 60 identified measure proposals. The proposals as at 1<sup>st</sup> July 2014 were the basis for a broad draft concept of the programme of measures, used to determine the scope of the strategic environment assessment (SEA).

Between 16 July and 16 August 2014 authorities and interested third parties whose activities in the fields of environment and health could be affected by the programmes of measures had the opportunity to submit their opinion on the proposed assessment scope (scoping procedure). At its meeting in September 2014, Kora determined the scope for the SEA on this basis.

In October 2014, the Federal Government and the federal states invited those involved in the SEA scoping procedure, in particular environmental organisations, user groups and other parties, to an informal dialogue pursuant to WHG Article 45i in conjunction with WHG Article 85. Ideas and proposals were put forward and a "shadow list" of proposed measures was submitted by the environmental organisations at the event. The contributions at the informal dialogue were reviewed and, where appropriate, taken into consideration in the work on the initial draft programme of measures which was underway from October 2014 to January 2015, and in Kora sessions. The draft programme of

measures had to be completed by the end of 2014, with interministerial consultations taking place in the first quarter of 2015. The consolidated drafts are to be published by 31 March 2015. Members of the public are able to submit a written opinion within six months of publication.

In January 2015, fact sheets were available for over 40 proposed measures. The fact sheets cover all relevant information including SEA-related assessment questions and the key requirements and aspects for describing and justifying measures. They form the basis for the initial socioeconomic assessment of February 2015 carried out by the cross-cutting Working Group on Socioeconomics (AG SÖK).

#### **4 Framework for the socio-economic assessment**

Meeting the requirements for the socioeconomic assessment of measures poses a similar challenge to that presented by the requirements of the Water Framework Directive (WFD).

For a conclusive assessment using the prescribed methods, a measure needs to be sufficiently specific and detailed in terms of its spatial, temporal and technical aspects.

Moreover, ideally the cost-effectiveness analysis to assess the efficiency of measures is carried out in parallel to the process of identifying and selecting the measures. However, such an approach is hardly practicable, as can be seen from the organisation and processes involved in implementing the MSFD in the field of water management.

Germany's federal structures, too, mean that the selection of measures not only has to be elaborated and coordinated in a scientifically sound manner, but must inevitably also pass through the relevant administrative hierarchies. It was evident from the early planning stages of the MSFD measures that the programme of measures would contain no, or very few, measures which had already reached level 3 of the measures fact sheets (and hence a point where the measures were defined in sufficient detail). In addition, the draft programme of measures comprised a broad range of measures covering widely divergent issues in line with the different environmental targets.

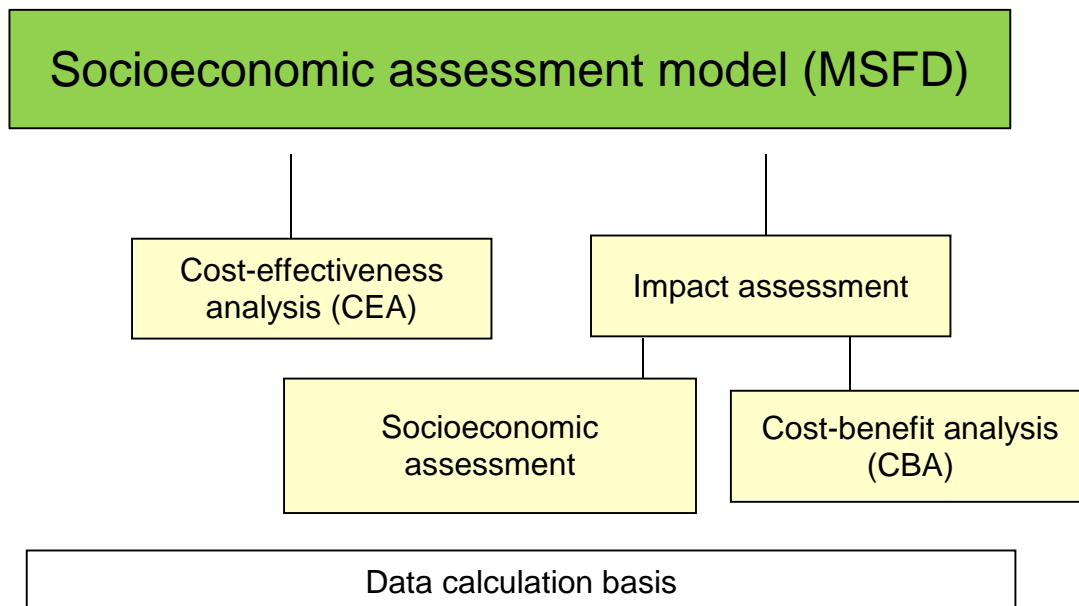
For this reason, it was decided in Germany as early as in 2013 that the national cross-cutting Working Group on Socioeconomic Issues would closely follow and document the process of identifying and selecting measures. This assisted the gathering of information and data on proposed measures, as well as the parallel elaboration of a standardised model for the socio-economic assessment, which can be used as soon as the measures are sufficiently refined. Prior work such as the economic section of the initial assessment (Marggraf et al. 2012) provided the basis for the assessment model, with separate studies (e.g. UBA 2013) also informing its development.

When the programme of measures is eventually notified to the Commission, a distinction is made between 1) the initial appraisal of the socioeconomic consequences and preliminary information on cost-effectiveness and 2) the conclusive socioeconomic assessment which can be carried out once the measures have been sufficiently specified.

The initial appraisal of socioeconomic impacts is drawn up by the Working Group on Socioeconomic Issues on the basis of information available to date in the current measures fact sheets. The contents can be found on the relevant fact sheet in attachment 1 to the programme of measures under the row-heading "socioeconomic assessments". Initial details on cost-effectiveness are given under the row-heading "costs" and "socioeconomic assessments". The information is supplemented at this point and time, in order to make an initial appraisal available for the public consultation.

The complete and conclusive socioeconomic assessment is conducted at a later date on the basis of the assessment scheme especially devised and adapted for the MSFD implementation process. This scheme elicits the information needed for the assessment. The scheme includes cost-effectiveness considerations and an impact assessment with cost-benefit analysis. At the same time, in the course of developing the scheme, a systematic data calculation basis was established to enable the later analyses to be conducted with valid data as uniformly as possible. The data calculation basis is a

collection of data and statistics which ensures that the information needed for assessing measures is drawn from a common source. For instance, tables giving an overview of administrative costs based on official statistics are included in the data calculation basis.



The procedure for the cost-effectiveness analysis (CEA) partly follows the process-oriented approach taken for cost-efficiency.<sup>4</sup> This approach was developed to comply with the economic requirements under the Water Framework Directive (WFD) in Germany. Experiences in implementing the WFD have shown that it is neither practicable nor constructive to take a text-book approach to proving the cost-efficiency of measures identified during the selection process under water management administrative procedures. However, even if the similarities with the WFD method are limited, in many ways the process of identifying MSFD measures is similarly structured in that it involves a large number of institutions and a multi-step selection and decision-making procedure. Thus, for instance, an explicit cost-effectiveness analysis was not possible while measures were still being identified and selected. The CEA is performed through an ex-post catalogue of questions (as part of the supplementary fact sheet) based on an analysis of

<sup>4</sup> cf LAWA recommendations for action on updating the economic analysis

the requirements of the Directive in combination with information from the European Common Implementation Process of WFD (cf 5.1. "cost-effectiveness analysis").

With regard to the impact assessment, the MSFD does not specify what form this should take, but only stipulates that it shall include a cost-benefit analysis. The structure of the impact assessment in the socioeconomic assessment scheme is based on a concept developed for the regulatory impact assessment (RIA).

#### Digression on the Regulatory Impact Assessment (RIA)

In Germany, there have been provisions on the RIA for over 40 years. As far back as the 1970s, it was set out in the Joint Rules of Procedure (GGO) of the Federal Ministries that proposals for legislative acts should include a description of the anticipated impacts on consumers, prices and the environment. At the end of 1984, the Federal Cabinet adopted guidelines for legislation known as the Blue Checklist, comprising a comprehensive catalogue for reviewing draft laws using criteria such as "benefit" and "costs" (Federal Interior Ministry (ed.) 1987: Independent Federal Commission to Simplify Law and Administration 1983-1987, Bonn). The Blue Checklist can also be found in a manual for preparing legal and administrative provisions published by the Federal Interior Ministry in 1992. In 1996, the checklist was incorporated into the RIA Special Section.

The revised version of the GGO in 2000 also contains a new integrative RIA procedure. This prescribes (under sections 43 and 44) that Federal government draft legislation must undergo an ex-ante assessment of its impacts. The legal definition under section 44(1) first sentence specifies that these are "to be understood as the main impacts of the legislation". Both intended effects and unintended secondary effects must be considered (section 44(1) second sentence). Guidelines on the RIA modelled on the Blue

Checklist have also existed in the federal states of western Germany since the 1980s. After German reunification these guidelines were also introduced in the new federal states in the eastern part of the country. The government of Rhineland-Palatinate was the first state government to lay down guidelines on the RIA in its Joint Rules of Procedure (section 13a) and give methodological instructions for its implementation.

Academic studies on the RIA in Germany have mainly been produced by the German Research Institute for Public Administration at the German University of Administrative Sciences in Speyer. The "Speyer RIA concept" (*Speyerer GFA-Konzept*) distinguishes three variations of the RIA: ex-ante, parallel and ex-post.

The ex-ante RIA can be used to identify the different regulatory options, compare their impacts and thus find the best solution.

The parallel RIA examines the draft law (ideally resulting from an ex-ante RIA) in more detail, including with regard to positive effects on efficiency and the proportionality between burdens and benefits.

The ex-post RIA determines (preferably in an ongoing process) the level of target achievement of the adopted regulation, real cost developments, unanticipated secondary effects etc. (Böhret/Konzendorf 2001: Handbuch Gesetzesfolgenabschätzung (GFA), Baden-Baden).

All major industrialised countries have legal provisions on RIA. In Europe, the EU Commission has a pioneering role in formalising procedures for assessing the impact of policies. Since the beginning of the 1990s the Commission has examined its projects using a checklist. Ten years on, this checklist was developed into comprehensive guidelines on impact assessment which will be updated regularly (European Commission 2009: Impact Assessment Guidelines). These guidelines concern the course of the procedure and the individual steps in an ex-ante impact assessment of Commission

initiatives. The implementation rate is very high. Important Commission proposals for all kinds of political programmes are nearly always subject to an impact assessment.

The guidelines of the European Commission prescribe a standardised impact assessment process and the free choice of method. There are only isolated potential references, which may be interpreted as methodological provisions. One instance of this is the stipulation by the state Parliament of North Rhine-Westphalia that, in principle, the benefits and costs of draft laws must also be quantified, not only described (printed paper of the *Land* Parliament 12/8637 of 22 March 1995).

Provisions on impact assessments vary widely with regard to which impacts (intentional and unintentional) must be considered. The effects on public spending are always cited as relevant, and some regulations leave it at that. In Lower Saxony, for example, the 2004 GGO of the state government and ministries refers only to a financial impact assessment – i.e. the representation of "which financial consequences are to be anticipated in the foreseeable future from the proposed regulation for the financing body of public administration [...]" (GGO section 38(2) p.3).

In the majority of cases, however, the impacts on the private sector and private households are also addressed. Section 44(5) of the GGO of the Federal Ministries states:

"Details must be provided on:

1. the costs to industry, and to small and medium-sized enterprises in particular, and the impacts of the law on unit prices and price levels in general;
2. the impacts of the law on the consumer."

The European Commission takes the most comprehensive approach. It developed a broad catalogue of impacts which can both be used selectively and further expanded on.

Most RIA provisions stipulate that an impact assessment should also make clear which of the real consequences of the measure are considered relevant for public budgets, industry and private households, and what the decision-maker's assumptions are regarding the extent (the amount) of these impacts.

The cost-benefit analysis goes beyond this, as it also considers potentially lost economic possibilities (opportunity costs) and benefits. For this reason, the comparative analysis of the costs and benefits needs to be supplemented with a precise description of the relevant impacts on the economy and society.

All in all, procedures, organisation and structure of the socioeconomic assessment reflect the framework conditions for identifying measures in Germany. Moreover, the evaluation of scenarios and measures takes the challenges ascertained in the initial assessment as systematically and uniformly as possible into consideration.

The assessment scheme was tested on a sample measure, for which example assumptions, some of them hypothetical, were made to provide statements and data for the socioeconomic assessment. In its current status, the assessment scheme therefore reflects the latest knowledge and will be modified if necessary after the model has been applied to other specific measures.



## 5 Socioeconomic assessment scheme for the MSFD

The socioeconomic assessment scheme under the MSFD is comprised of the following elements:

I. Cost-effectiveness analysis

II. Impact assessment including cost-benefit analysis

The assessment scheme adheres closely to the MSFD implementation process because of its incorporation in the Directive's implementation structures and procedures. Key components of the model are the two forms of analyses referred to above. The assessment scheme should be seen as a supplement to the existing measure fact sheet, including the initial appraisal of the socioeconomic impacts.

The area of application of the socioeconomic assessment scheme is prescribed by the Commission or the relevant guideline from the international process of the Common Implementation Strategy (CIS).<sup>5</sup> It must be noted, for instance, that the assessment scheme in the framework of the MSFD only has to be applied to **new** measures, meaning that each individual measure has to pass through the MSFD assessment model one time. Exceptions are research activities which, under the current MSFD PoM Guidance document (2014), are not subject to either a cost-benefit or a cost-effectiveness analysis ("Research activities/research references could be submitted as a supplementary list to the PoM but do not need to be aligned to specific environmental targets. Therefore, for such activities there is no need to carry out cost-benefits and/or cost-effectiveness assessment" (p. 16)).

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<sup>5</sup> MSFD PoM Guidance document 2014

System of application for the socioeconomic assessment of measures<sup>6</sup>

Measures	Measure category	CEA	CBA
Article 13.1 & 13.2 <i>Measures relevant for the maintenance and achievement of GES under the MSFD that <u>have been adopted under other policies and implemented</u></i>	EXISTING 1.a	No	No
Article 13.1 & 13.2 <i>Measures relevant for the maintenance and achievement of GES under the MSFD that <u>have been adopted under other policies but that have not yet been implemented or fully implemented.</u></i>	EXISTING 1.b	No	No
Art 13.3 <i>Additional measures to achieve GES which build on existing Community legislation and international agreements but go beyond what is already required under these;</i>	NEW 2.a	Yes* Case by case	Yes* Case by case
Art 13.3 <i>Additional measures to achieve GES which do not build on existing Community legislation or international agreements</i>	NEW 2.b	Yes	Yes

"No" means that the assessment does not need to be done under MSFD

The "Yes\*" under category 2.a means that, depending on the existing legislation in question and if necessary, the scope of CEA / CBA is focused mainly on the additional contribution to the marine environment.

<sup>6</sup> From Chapter VII "Costs and Benefits of the programmes of measures" (MSFD PoM Guidance document 2014)

## 5.1 Cost-effectiveness analyses

The cost-effectiveness analysis consists of four assessment steps.

**Figure 1 Structure of cost-effectiveness analysis in the assessment scheme for the MSFD**

<ol style="list-style-type: none"> <li>1. Theoretical effectiveness <ul style="list-style-type: none"> <li>• Reference to scientific evidence of effectiveness</li> <li>• Considerations regarding alternative measures</li> </ul> </li> <li>2. Effectiveness under field conditions <ul style="list-style-type: none"> <li>• Are several institutions necessary for implementation? →Consultation, coordination, responsibilities</li> <li>• Are behavioural changes needed from social groups affected? →Information and "political" support</li> </ul> </li> <li>3. Costs <ul style="list-style-type: none"> <li>→Determining administrative compliance cost for developing, introducing, coordinating and implementing the measure</li> </ul> </li> <li>4. Funding</li> </ol>
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### Theoretical effectiveness

Theoretical effectiveness is effectiveness under controlled conditions. One of the key questions to be asked: "Is the selected measure useful?" The response should highlight why it is necessary to implement this particular measure. As evidence of effectiveness the MSFD assessment scheme requires scientific studies to be cited which verify that the measure achieves the desired effect.

Considering alternative measures is also a step in assessing cost-effectiveness. Why was this particular measure selected rather than another? Were alternative measures considered (earlier)? How does the effectiveness of the selected measure compare to possible alternative measures?

### **Effectiveness under field conditions**

In contrast to theoretical effectiveness, this aspect focuses on how effective the measure is once implemented. This assessment step, also known in English-language literature as "compliance and adoption" can be subdivided as follows:

1. Can implementation lead to problems which hinder the effectiveness of the measure?
2. If yes, what was undertaken in advance of implementation to minimise the probability of these problems arising?

Such problems are particularly likely to arise in two cases: firstly, if several institutions are involved in implementing a measure and secondly, when certain social groups have to alter their behaviour. The first case calls for consultations in order to clarify in advance cooperation and competencies and to allocate responsibilities and costs. In the second example, flanking measures such as advisory services, awareness raising and timely information should be used to increase acceptance for the measure.

### **Costs**

This step determines the administrative compliance **costs** connected with the measure. This takes into account both personnel and material costs for aspects including development, introduction, coordination and implementation of the measure.

### **Funding**

This step describes how the funding of the measure was agreed. It details both the sources of funding and their respective contributions. Alternative funding options are also reviewed.

Figure 2 presents the steps in the assessment scheme under the MSFD for cost-effectiveness analysis. The summary at the end of each step must be entered under the relevant heading in the measure fact sheet. Figures must be rounded after calculation to avoid spurious accuracy.

**Figure 2 Assessment model for cost-effectiveness analysis under the MSFD**

<p>1. Theoretical effectiveness</p> <p>1.1 Effectiveness of measure</p> <p>1.1.1. Name the key studies, where relevant transferable to Germany, which scientifically verify the effectiveness of the measure.</p> <p>1.1.2. Using the studies, quantify the expected effectiveness of the measure (e.g. reduction of nitrogen discharges in kg), indicating as accurately as possible the parameter these refer to (e.g. nutrient reduction per km riparian strip).</p> <p>1.2. Alternative measures</p> <p>1.2.1. Were alternative measures with the same goal also considered during the process for identifying measures?</p> <p>1.2.2. If yes, why were the alternatives rejected?</p> <p>Summary:</p> <p>The expected effectiveness of the measure is supported by the following studies: _____.</p> <p>The following alternative measures were considered:_____.</p> <p>The summary must be entered in the measure fact sheet under the heading <b>justification of measure.</b></p>
<p><b>2. Effectiveness under field conditions</b></p> <p>2.1. Implementing institutions</p> <p>2.1.1. Under which jurisdiction does the implementation of the measure fall in the first instance? (Federation, federal states, both or other?)</p>

2.1.2. Which ministry/ministries is/are responsible for the measure?

2.1.3. Which other institutions are involved in, or affected by, the practical implementation?

2.2. Changes to group behaviour

2.2.1. Does implementation of the measure call for changes, which also affect the public, social groups, industry etc.?

If yes:

2.2.2. What impact does the measure have? Do the groups affected have to make changes e.g. to their behaviour?

2.2.3. How will these groups be informed?

2.2.4. Are there plans to support these changes with flanking measures (such as advisory services and informational events)? If so, what form will these take?

Summary:

The following institutions are involved:\_\_\_\_\_.

The cooperation is regulated as follows:\_\_\_\_\_.

A change in behaviour is needed from the following social groups:\_\_\_\_\_.

This will be supported by the following flanking measures:\_\_\_\_\_.

The summary must be entered in the measure fact sheet under the heading **coordination of implementation**.

### 3. Costs

Compliance costs for administration

3.1. Personnel costs (administration only)

3.1.1. How high are the necessary personnel costs for the development and introduction of the measures?

3.1.2. How high are the personnel costs for the implementation and coordination of the measures?

3.1.3. How high are the personnel costs for monitoring the measures?

3.1.4. How high are the personnel costs for training purposes?

3.1.5. How high are the personnel costs for operation and maintenance due to implementation of measures?

3.2. Material costs

3.2.1. How high are the material costs for monitoring the measures?

3.2.2. How high are the material costs for training purposes?

3.2.3. How high are the material costs for operation and maintenance due to implementation of measures?

3.2.4. What other material costs have to be included, e.g. investments such as in land purchases, planting, compensation payments? Please indicate the total costs.

Calculate the personnel costs using the checklist on administrative activity, including the benchmarks given and the standard pay rates plus percentage additional expenditure (e.g. for a non-office workplace), in the data calculation basis (Part A).

Summary:

Personnel costs are €\_\_\_\_\_.

Material costs costs are €\_\_\_\_\_.

The summary must be entered in the measures fact sheet under the heading **costs**.

#### 4. Funding

4.1. List the sources of funding.

4.2. How much is funded, listed by source of funding?

4.3. Were alternative funding options reviewed? If so, what were they? (e.g. funds of ELER, EMSA)

Summary:

The measure is funded by:\_\_\_\_\_.

The respective funding amount is:\_\_\_\_\_.

The following alternative funding options were reviewed:\_\_\_\_\_.

The summary must be entered in the measure fact sheet under the heading **funding**.

## 5.2 Impact assessment

The impact assessment for a measure consists of two components: a socioeconomic assessment and a cost-benefit analysis (see fig. 3).

The **socioeconomic assessment** focuses on **relevant economic and social factors** and describes the economic and social impacts.

The **cost-benefit analysis** determines the **welfare effects**, considering impacts only as far as necessary for the assessment.

**Figure 3 Structure of impact assessment in the assessment scheme under the MSFD**

<b>Impact assessment</b>
<p><u>Economic and social analysis (descriptive)</u></p> <ol style="list-style-type: none"> <li>1. Impacts of administrative costs (on public spending)</li> <li>2. Impacts of administrative costs on the economy (on gross value added, employment and prices)</li> <li>3. Impacts of improving marine environment (on the economy and population in the German cities and districts directly bordering the seas)</li> </ol> <p><u>Cost-benefit analysis (evaluative)</u></p> <ol style="list-style-type: none"> <li>1. Annual cost to national economy arising from administrative compliance costs</li> <li>2. Annual cost to national economy arising from compliance costs to industry</li> <li>3. Annual benefit to national economy arising from improvements to the marine environment</li> <li>4. Total cost and quantified total benefit of measure for national economy</li> </ol>

### 5.2.1 Socioeconomic assessment

The descriptive socioeconomic assessment first considers the consequences arising from the compliance cost of the measure to administration/public budget, industry and society. Key parameters in this context (see Fig. 3) are administrative costs, personnel and material costs for the development, introduction, coordination and implementation of the measure. Compliance costs to industry include costs or changes in turnover arising from charges, information requirements or other obligations. The consequences for the economy and society include changes in public spending, in gross value added, employment and prices. Finally, in describing the impacts of improving the marine environment on the economy and populations in the towns and districts directly bordering the seas, the assessment looks at changes in gross value added and employment. A socioeconomic description requires that the relevant data be available, since time and staff constraints prevent research in the field. In this respect, it is appropriate to base the assessment as far as possible on data



provided by e.g. the Federal Statistical Office, agencies of the federal states or similar institutions.

Figure 4 below describes the steps in the MSFD scheme for the socioeconomic assessment. The summary at the end of each step must be entered in the measure fact sheet under the heading socioeconomic assessment. Figures must be rounded after calculation to avoid a spurious accuracy.

**Figure 4 Model for socioeconomic assessment under the MSFD**

<p><b>1. Impacts of administrative compliance costs on public spending</b></p> <p>1.1. Calculate the annual compliance costs for administration using the data you provided in section 3 of the cost-effectiveness analysis.</p> <p>Summary:</p> <p>Preparation of the measure entails the following administrative compliance costs: _____.</p> <p>Implementation of the measure entails the following annual administrative compliance costs: _____.</p> <p>1.2.a Do personnel costs include an increase in administrative capacities?</p> <p>1.2.b If yes, what percentage of the personnel costs relates to this capacity increase?</p> <p>1.2.c To calculate the public spending increase arising from the measure, please add the material costs and the personnel cost percentage identified under 1.2.b.</p> <p>Summary:</p> <p>In the preparatory phase administrative compliance costs entail the following public spending: _____.</p> <p>Implementation of the measure requires the following annual public spending: _____.</p> <p>This summary must be entered in the measure fact sheet under <b>socioeconomic assessment</b></p>
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## **2. Impacts of compliance costs to industry on gross value added, employment and prices**

2.1. What fields/sectors are affected by the implementation of the measure?

2.2. Are levies required? If yes, to what extent?

2.3. Are there obligations to provide information? If yes, what are the estimated costs of these? Use the cost classification and cost factors for each case in the data calculation basis (Part B).

2.4. Are there any other obligations?

- a. Are changes to the operational process required?
- b. Does the quantity or quality of inputs need to be modified, for instance more qualified positions, higher qualifications, new/more machines etc.?
- c. Does the quantity or quality of preparatory services need to be modified, for instance the use of goods for further processing?
- d. Are other activities needed, such as monitoring?
- e. Does the measure require restrictions on production volumes?

For guidance on how to estimate the figures, refer to the data calculation basis (Part B).

Summary:

The measure entails the following compliance costs for affected sectors of industry:\_\_\_\_\_.

2.5. Calculate the changes to gross value added, employment and prices arising from the compliance costs to industry using the data calculation basis (Part B).

Summary:

The impacts on gross value added, employment and prices arising from the measure must be considered as relevant.

The following impacts apply:\_\_\_\_\_

This summary must be entered in the measure fact sheet under **socioeconomic assessment**.

### **3. Impacts of improvements to the marine environment on the economy and population of the German towns and districts bordering the seas**

3.1. Which fields/branches benefit from the environmental effect(s) of the measure?

3.2. In which region (entire North Sea coast, entire Baltic Sea coast, entire coasts of North and Baltic seas, or specific German towns and districts directly bordering the seas) do you expect positive environmental effects?

3.3. Calculate the change in gross value added and employment in the fields/sectors concerned. For tourism and fisheries use the information on the German towns and districts directly bordering the seas in the data calculation basis (Part C).

Summary:

The following industrial sectors are positively affected: \_\_\_\_\_

The measure affects the following German towns and districts directly bordering the seas: \_\_\_\_\_.

The impacts on gross value added and employment arising from the measure must be considered as relevant.

The following impacts apply: \_\_\_\_\_

This summary must be entered in the measure fact sheet under **socioeconomic assessment**.

## **5.2.2 Cost-benefit analysis**

Costs to the national economy arise from the administrative compliance costs and their associated consequences. The compliance costs to industry also lead to costs to the national economy. With regard to the economic benefits, the cost-benefit analysis must consider both the economic and non-economic value of the environmental improvement. The appropriateness of examining non-economic value quantitatively or qualitatively must be determined on a case-by-case basis, whereby the availability of data is a deciding factor. For the overall economic assessment of the measure, the calculated economic costs and benefits are adjusted to the project duration, discounted to present values and compared. Figure 5 below shows the steps in the MSFD assessment scheme for the cost-benefit analysis. The summary at the end of the step must be entered in the measure fact sheet

under socioeconomic assessment. Figures must be rounded after calculation to avoid a spurious accuracy.

**Figure 5 Assessment scheme for the cost-benefit analysis under the MSFD**

**1. Annual cost to national economy arising from administrative compliance**

**costs**

Calculate the annual cost to the national economy arising from administrative compliance costs, using the data calculation basis (Part D).

**2. Annual cost to national economy arising from compliance costs to industry**

Calculate the annual cost to the national economy arising from compliance costs to industry, using the data calculation basis (Part E).

**3. Annual benefit to national economy arising from improvements to marine environment**

**Economic value of improvement to marine environment**

3.1 Use the change in gross value added calculated in the socioeconomic assessment for the German towns and districts directly bordering the seas.

**Non-economic value of improvements to marine environment**

3.2 Which assessment situation is relevant? For your assessment, please use the collected data of relevant studies in the data calculation basis (Part F).

Could a suitable assessment study be found? if yes:

3.2.1. Describe the environmental improvement assessed by the selected study and document the differences to the environmental improvement of the current measure.

3.2.2. Adjust the calculated willingness-to-pay value to the burden reduction reference value.

3.2.3. Transfer the value calculated with the benefit-transfer formula in the data calculation basis (Part F). Indicate the year and country in which the selected study was carried out and its scope.

If no suitable assessment study was available:

3.2.4. Describe the non-economic benefits of the measure, focusing on the marine ecosystem assets and services.

3.2.5. Explain whether further benefits for biodiversity, surface and running waters were considered, and the extent to which this changes the result.

#### **4. Total cost to the national economy and quantified overall benefits of the measure**

Summarise the details given under 3.2.4. and 3.2.5. and calculate the present values of the total cost to the national economy and quantified overall benefits using the data calculation basis (Part G).

Summary:

Based on the assumptions made, the economic assessment of the measure is: \_\_\_\_\_.

This summary must be entered in the measures fact sheet under **socioeconomic assessment**.

## **6 Assessment scheme for MSFD - an example of application**

The following presents an initial application example of the assessment scheme in order to comply with MSFD requirements for evaluating the socioeconomic impacts of a measure. The example is one developed in the course of elaborating the assessment model which is presented in this document. Further examples of the scheme will follow.

## **Measure: Preventing and combating marine pollution – improving maritime emergency preparedness and response**

### **Brief description of the measure**

The measure deals with preventing and combating marine pollution arising from accidental, intentional or operational releases of substances hazardous to water. In the Federal Republic of Germany, a strategic approach developed jointly by the Federation and coastal federal states Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony and Schleswig-Holstein provides the basis for joint coordinated actions. All tasks are coordinated by the Central Command for Maritime Emergencies, which acts as centre of competence for maritime emergency preparedness and ensures uniform operational command in the event of complex emergency situations involving noxious substances. Considering the example measure M19 for the German North Sea and Baltic Sea, the strategic approach of the Central Command for Maritime Emergencies is to be updated and improved, in order to protect the marine environment against pollution by noxious substances (especially oil).

### **I. Cost-effectiveness analysis**

#### **1. Theoretical effectiveness**

*The anticipated effectiveness of the measure is supported by the following studies:*

- Report "Schadstoffunfallbekämpfung Küste, Stand 07.01.2009." (marine pollution control – coastal section, 7 January 2009)

*The following alternative measures were reviewed:*

- Spread surfactants on the sea to bind the oil / Deepwater Horizon
- Technologies for ships and land-based measures

#### **2. Effectiveness in the field**

*The following institutions are involved:*

- Central Command for Maritime Emergencies (Federation and five coastal federal states)

*Cooperation is organised as follows:*

- Not applicable

*A change in behaviour is needed from the following groups:*

- Shipping and offshore wind energy sector

*This is supported by the following measures:*

- No information available

### **3. Costs**

*Expenditure on staff costs:*

- 450,000 euros including material costs/overheads

*Material costs are:*

- 2 million euros/year

### **4. Funding**

*The measures are funded by:*

- Federation and coastal federal states

*Respective amounts:*

- 50% Federation and federal states

*The following alternative funding options are being examined:*

- European Maritime Safety Agency (EMSA) funds

## **II. Impact assessment**

### **i. Socio-economic assessment**

*The measure entails the following administrative compliance costs:*

- 2.45 million euros/year

*The measure entails the following additional compliance costs for the affected sectors of industry:*

- 259,000 euros/year

*Relevant impacts include effects on public spending, gross value added, prices and employment.*

*The following impacts apply:*

- Public spending: 2.45 million euros/year.
- Gross value added: only marginal changes.
- There are no price effects.
- There are no employment effects.

*The measure concerns the following German cities and districts directly bordering the seas:*

- The measure affects all the German cities and districts directly bordering the seas, but there are no increases in gross value added or employment.

## **ii. Cost-benefit analysis**

*Based on the assumptions made, the measure can be considered positive for the economy.*

Main assumptions:

- Project duration: 3 MSFD cycles, totalling 18 years.
- Reference year 2015
- The economic benefit of environmental improvement consists of:
  - costs of damages avoided due to measure
  - willingness-to-pay on the basis of benefit transfer (Bergland, 1994, Norway).
- Discounting carried out, discount rate 2%.

Summary:

The cost-effectiveness (efficiency) of the measure was verified. The impact assessment including the cost-benefit analysis shows that based on the assumptions made the measure can be considered positive for the national economy.

## **7 Conclusion and outlook**

The structures and processes presented here, together with the institutions involved in the implementation of the MSFD in Germany, provide the framework for developing a socioeconomic assessment scheme. The scheme for a socioeconomic assessment of measures described in this paper covers all the requirements set out in the Directive: a cost-effectiveness analysis and an impact assessment including a cost-benefit analysis. The



scheme was developed by combining the provisions of the MSFD itself with the framework in place in Germany for such an assessment. At this point there is not enough information or details on the proposed list of measures to enable a comprehensive socioeconomic assessment to be carried out.

Therefore, in the course of the work on the assessment scheme and parallel to the process of identifying measures, an example measure was selected to enable the model a) to be developed and b) to be adjusted. This led to the current state of the assessment scheme. However, the model is considered as open and can be extended as necessary, since only its application to further measures in the ongoing implementation process will reveal what yet unknown challenges have to be dealt with. The focus will continue to be on the practical application for water management administration, thus setting the assessment scheme apart in several aspects from many scientific discussions.

The application of the scheme on the sample measure demonstrates the challenges arising with regard to the data and information situation and what must be discussed to enable the results of a socioeconomic assessment to lead to an efficient and targeted implementation of the Marine Strategy Framework Directive.

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